

Chapter XXIV

Measurement and Maturity of Business Processes

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ABSTRACT

The underlying premise of process management is that the quality of products and services is largely determined by the quality of the processes used to develop, deliver and support them. A concept which has been closely related to process quality over the last few years is the maturity of the process and it is important to highlight the current proposal of Business Process Maturity Model (BPMM), which is based on the principles, architecture and practices of CMM and CMMI for Software and describes the essential practices for the development, preparation, deployment, operations and support of product and service offers from determining customer needs. When maturity models are in place, it is important not to forget the important role that measurement can play, being essential in organizations which intend to reach a high level in the maturity in their processes. This is demonstrated by observing the degree of importance that measurement activities have in maturity models. This chapter tackles the Business Process Maturity Model and the role that business measurement plays in the context of this model. In

addition, a set of representative business process measures aligned with the characteristics of BPMM are introduced which can guide organizations to support the measurement of their business processes depending on their maturity.

INTRODUCTION

As stated in (OMG, 2007), “the underlying premise of process management is that the quality of products and services is largely determined by the quality of the processes used to develop, deliver and support them”. Regardless of what the business of an organization is, whether software development, government business or manufacturing, the need to explicitly define, manage, measure, control, analyze and improve its business processes is the same. A concept which has been closely related to process quality over the last few years is the maturity of the process, especially in the context of software processes.

Process maturity is based on the first ideas of (Crosby, 1979) and (Humphrey, 1987) and represents the degree of explicit definition, management, measurement, control and effectiveness a process has. The works of Humphrey (Humphrey, 1987) were carried out in the context of the development of CMM (Paulk et al., 1993) and later CMMI (CMMI Product Team, 2002 and 2006), and have become important reference models for improving the capability of software organizations. Since then, many similar standards have been developed for other processes, for example the People CMM (Curtis, 1995) which applied process maturity to the management and development of an organization’s workforce.

In a mature organization, processes are defined, performed and managed and accurately communicated to the staff, and work activities are carried out according to planned processes. These processes are documented and usable with roles and responsibilities that are clearly defined and understood by the people performing the associated activities. The needed improvements in selected processes are developed and controlled

and aligned with business objectives. The quality of products and services are monitored, as well as the processes that produce them (OMG, 2007). Thus, the importance and benefits of process maturity in an organization are clear.

Recently, earlier proposals which have shown themselves to be useful in the context of software processes have been applied to business processes. The main example of this is the current proposal for a Business Process Maturity Model (OMG, 2007), which is based on the principles, architecture and practices of CMM and CMMI for Software and describes the essential practices for the development, preparation, deployment, operations and support of product and service offers from determining customer needs. The BPMM, like other maturity models, is expected to benefit organizations in terms of rework reduction, consistency and improvements in quality (OMG, 2007).

When maturity models are in place, it is important not to forget the important role that measurement can play. As a matter of fact, measurement is essential in organizations which intend to reach a high level in the maturity in their processes. This is demonstrated by observing the degree of importance that measurement activities have in maturity models. Measurement provides objective information about and a view of project performance, process performance, process capability and product and service quality. Moreover, measurement helps to provide objective insight into issues in order to identify and manage risks and to provide the early detection and resolution of problems.

The use of measures and other information makes it possible for organizations to learn from the past in order to improve performance and achieve better predictability over time. It also

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